

**Request to Archive  
With The National Centers for Environmental Information  
For NOAA Global Surface Temperature Dataset - Ver 4.0 UPDATE  
Provided by NCEI**

**2016-07-14**

This information will be used by NCEI to conduct an appraisal and make a decision on the request.

**1. Who is the primary point of contact for this request?**

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**2. Name the organization or group responsible for creating the dataset.**

NECI/NESDIS

**3. Provide an overview summarizing the scope of data you want to archive. Describe the outputs, data variables, including their measurement resolution and coverage.**

This is an updated version of the MLOST v3.5. Together with the version update, the name has been officially changed to NOAA Global surface Temperature (abbreviated as NOAAGlobalTemp) from the former MLOST. The only difference of this NOAAGlobalTemp v4.0 from MLOST v3.5 is that input dataset on SST has been switched from ERSST v3b to the new ERSST v4.0.

The NOAAGlobalTemp v4.0 is a spatially gridded (5° x 5°) global surface temperature dataset, with monthly resolution from January 1871 to present. NCEI combines a global sea surface (water) temperature (SST) with a global land surface air temperature dataset into this merged dataset of both the Earth's land and ocean surface temperatures. The SST dataset is the Extended Reconstructed Sea Surface Temperature (ERSST) version 4.0. The land surface air temperature dataset is similar to ERSST, but uses data from the Global Historical Climatology Network Monthly (GHCNM) database, v3.2.3.

NCEI provides the NOAAGlobalTemp dataset as temperature anomalies, relative to a 1971-2000 monthly climatology, following the World Meteorological Organization convention. The anomalies and error fields are available from NCDC's FTP area and Climate Monitoring group.

**4. What is the time period covered by the dataset? (YYYY-MM-DD, YYYY-MM or YYYY)**

From 1871-01  
Ongoing as continuous updates to the data record

**5. Edition or version number(s) of the dataset:**

NOAAGlobalTemp v4.0

**6. Approximate date when the dataset was or will be released to the public:**

2015-03-01

**7. Who are the expected users of the archived data? How will the archived data be used?**

Climate research, monitoring and application community.

**8. Has the dataset undergone user evaluation and/or an independent review process? Did NCEI participate in design reviews?**

The NOAAGlobalTemp v4.0 is a simple update by switching the SST input from ERSST v3b to ERSST v4.0, and the ERSST v4.0 has been peer-reviewed:

Huang, B., V. F. Banzon, E. Freeman, J. Lawrimore, W. Liu, T. C. Peterson, T. M. Smith, P. W. Thorne, S. D. Woodruff, and H.-M. Zhang, 2014: Extended Reconstructed Sea Surface Temperature version 4 (ERSST.v4), Part I. Upgrades and Intercomparisons. J. Climate, Submitted.

Liu, W., B. Huang, P. W. Thorne, V. F. Banzon, H-M Zhang, E. Freeman, J. Lawrimore, T. C. Peterson, T. M. Smith, and S. D. Woodruff, 2014: Extended Reconstructed of Sea Surface Temperature version 4 (ERSST.v4), part II: Uncertainty Estimation. J. Climate, in review.

**9. Describe the dataset's relationship to other archived datasets, such as earlier versions or related source data. If this is a new version, how does it improve upon the previous version(s)?**

The NOAAGlobalTemp v4.0 is a simple update by switching the SST input from ERSST v3b to ERSST v4.0.

**10. List the input datasets and ancillary information used to produce the data.**

Input Datasets: 1) ERSST v4.0; 2) GHCN-M v3.2.3

**11. List web pages and other links that provide information on the data.**

(to be added)

**12. List the kinds of documents, metadata and code that are available for archiving. For example, data format specifications, user guides, algorithm documentation, metadata compliant with a standard such as ISO 19115, source code, platform/instrument metadata, data/process flow diagrams, etc.**

1. Smith, T.M., R.W. Reynolds, T.C. Peterson, and J. Lawrimore, 2008: Improvements to NOAA's Historical Merged Land-Ocean Surface Temperatures Analysis (1880-2006); Journal of Climate, 21, 2283-2296, doi:<http://dx.doi.org/10.1175/2007JCLI2100.1> (link is external).

**13. Indicate the data file format(s).**

1. netCDF-3

**14. Are the data files compressed?**

No

**15. Provide details on how the files are named and how they are organized (e.g., file\_name\_pattern\_YYYYMM.tar in monthly aggregations).**

NOAAGlobalTemp\_v4\_sYYYYMM\_eYYYYMM\_cYYYYMMDDTHHMMSS.tar

Containing Time Series and Gridded netcdf files

Adding on 7/14/2016 to include this file within the auxiliary .tar file that is already being regularly submitted (will include in said .tar beginning with August 2016):

ghcnm.tavg.vX.X.X.YYYYMMDD.qca.inv (1 MB filesize; 0.25 MB if it's compressed)

**16. Explain how to access sample data files and/or a file listing for previewing. If it is not available now, when will it be available?**

Rainband:/home/iab\_op/NOAAGlobalTemp\_v4/data

**17. What is the total data volume to be submitted?**

**Continuous Data: data volume rate for a continuous data production.**

Total Data Volume Rate: 25MB per Month

Data File Frequency: 1 per Month

Data Production Start: 2015-03-01

**18. Are later updates, revisions or replacement files anticipated? If so, explain the conditions for submitting these additional data to the archive.**

A future version is under development, and will be updated when GHCN-M v4 is released.

**19. Describe the server that will connect to the ingest server at NCEI for submitting the data.**

Physical Location: NCEI, Asheville, NC

System Name: Rainband

System Owner: NCEI

Additional Information:

**20. What are the possible methods for submitting the data to NCEI? Select all that apply.**

1. FTP PUSH

**21. Identify how you would like NCEI to distribute the data. Web access support depends on the resources available for the dataset.**

1. Direct download links

2. Advanced web services (e.g., THREDDS Catalog Service)

**22. Will there be any distribution, usage, or other restrictions that apply to the data in the archive?**

No known constraints apply to the data.

**23. Discuss the rationale for archiving the dataset and the anticipated benefits. Mention any risks associated with not archiving the dataset at NCEI.**

As an important input for NOAA/NCEI climate monitoring products.

**24. Are the data archived at another facility or are there plans to do so? Please explain.**

No

**25. Is there an existing agreement or requirement driving this request to archive? Have you already contacted someone at NCEI?**

NOAAGlobalTemp v4.0 Submission Agreement

**26. Do you have a data management plan for your data?**

No

**27. Have funds been allocated to archive the data at NCEI?**

NCEI internal

**28. Identify the affiliated research project, its sponsor, and any project/grant ID as applicable.**

NCEI internal project

**29. Is there a desired deadline for NCEI to archive and provide access to the data?**

Archive by: 2015-03-16

Accessible by: 2015-03-16

**30. Add any other pertinent information for this request.**

None